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# FUZION

## FUSION THERMAL & OPTICAL BI-SPECTRUM MONOCULAR

The AGM Fuzion Handheld Thermal & Optical Bi-spectrum Monocular is equipped with 12 $\mu$ m high sensitivity thermal detector, ultra-low light optical detector, 1024 $\times$ 768 OLED display and eyepiece with a large field of view. The device can quickly detect hiding objects even under extreme environments such as smoke, fog, rain, snow, etc. It can be widely applied to scenarios including patrol, search and rescue, drug interdiction, and suspect apprehension. Due to its waterproof capability the device performs well even in severe weather conditions and challenging environments.

The Fuzion's user-friendly interface, comfortable and ergonomic operating controls makes adoption and application incredibly simple. The monocular offers three different variants of image view: thermal, visible light, and fusion that can be easily adapted depending on different environmental conditions. The Fuzion uses one 18650 rechargeable Lithium battery for up to 5-hours of operating time. In addition, an external power supply can be used to provide an increase in operating time.

- Bi-spectrum image fusion and object highlight
- Detail enhancement and target recognition
- Selection of thermal view channel, visible light channel, or both them combined
- 12  $\mu$ m, 35 mK NETD high sensitivity thermal detector
- Fast 50 Hz imaging
- 1x, 2x, 4x, 8x digital zoom
- Digital image processing technology
- Ultra-low illumination optical channel
- 1920 $\times$ 1080 optical resolution
- 1024 $\times$ 768 resolution, 0.39-inch OLED display
- Video recording and snapshot, built-in EMMC (16 GB)
- Wi-Fi hotspot
- Standby mode
- Up to 5 hours continuous running
- Waterproof
- Limited 3-Year Warranty



Equipment described herein is subject to US export regulations and may require a license prior to export. Diversion contrary to US law is prohibited.

## SPECIFICATIONS

|                                   | FUZION TM25-384                                                                                                           | FUZION TM35-384                                                                                                           | FUZION TM35-640                                                                                                           |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| Detector Type                     | 12 $\mu$ m VOx Uncooled Focal Plane Arrays                                                                                | 12 $\mu$ m VOx Uncooled Focal Plane Arrays                                                                                | 12 $\mu$ m VOx Uncooled Focal Plane Arrays                                                                                |
| Resolution                        | 384 x 288                                                                                                                 | 384 x 288                                                                                                                 | 640 x 512                                                                                                                 |
| Refresh Rate                      | 50 Hz                                                                                                                     | 50 Hz                                                                                                                     | 50 Hz                                                                                                                     |
| Response Waveband                 | 8 $\mu$ m to 14 $\mu$ m                                                                                                   | 8 $\mu$ m to 14 $\mu$ m                                                                                                   | 8 $\mu$ m to 14 $\mu$ m                                                                                                   |
| Thermal Lens Focal Length         | 25 mm                                                                                                                     | 35 mm                                                                                                                     | 35 mm                                                                                                                     |
| Aperture                          | F1.0                                                                                                                      | F1.0                                                                                                                      | F1.0                                                                                                                      |
| Field of View (HxV)               | 10.5° x 7.9°                                                                                                              | 7.5° x 5.7°                                                                                                               | 12.5° x 10°                                                                                                               |
| Magnification                     | 2.5x – 20x                                                                                                                | 3.5x – 28x                                                                                                                | 2x – 16x                                                                                                                  |
| Digital Zoom                      | 1x, 2x, 4x, 8x                                                                                                            | 1x, 2x, 4x, 8x                                                                                                            | 1x, 2x, 4x, 8x                                                                                                            |
| Observation Distance              | 1,181 m                                                                                                                   | 1,653 m                                                                                                                   | 1,653 m                                                                                                                   |
| Monitor                           | 1024x768, 0.39 inch, OLED, 50Hz                                                                                           | 1024x768, 0.39 inch, OLED, 50Hz                                                                                           | 1024x768, 0.39 inch, OLED, 50Hz                                                                                           |
| FFC (Flat Field Correction)       | Auto, Manual, External Correction                                                                                         | Auto, Manual, External Correction                                                                                         | Auto, Manual, External Correction                                                                                         |
| Palettes                          | Black Hot, White Hot, Red Hot, Fusion, Visible, Image Fusion                                                              | Black Hot, White Hot, Red Hot, Fusion, Visible, Image Fusion                                                              | Black Hot, White Hot, Red Hot, Fusion, Visible, Image Fusion                                                              |
| Highest Temperature Spot Tracking | Yes                                                                                                                       | Yes                                                                                                                       | Yes                                                                                                                       |
| Scene Mode                        | Jungle, Recognition                                                                                                       | Jungle, Recognition                                                                                                       | Jungle, Recognition                                                                                                       |
| Optical Image Sensor              | 1/2" Progressive Scan CMOS, 1960x1200@25fps                                                                               | 1/2" Progressive Scan CMOS, 1960x1200@25fps                                                                               | 1/2" Progressive Scan CMOS, 1960x1200@25fps                                                                               |
| Optical Sensor Wavelength         | 400-1000 nm                                                                                                               | 400-1000 nm                                                                                                               | 400-1000 nm                                                                                                               |
| Optical Module Lens Focal Length  | 22 mm                                                                                                                     | 22 mm                                                                                                                     | 22 mm                                                                                                                     |
| Hotspot                           | Yes                                                                                                                       | Yes                                                                                                                       | Yes                                                                                                                       |
| Sleep Mode                        | Yes                                                                                                                       | Yes                                                                                                                       | Yes                                                                                                                       |
| Built-in Storage                  | 16 GB EMMC                                                                                                                | 16 GB EMMC                                                                                                                | 16 GB EMMC                                                                                                                |
| Record Video                      | On-board video recording                                                                                                  | On-board video recording                                                                                                  | On-board video recording                                                                                                  |
| Capture Snapshot                  | Yes                                                                                                                       | Yes                                                                                                                       | Yes                                                                                                                       |
| CVBS Output                       | Yes (via USB)                                                                                                             | Yes (via USB)                                                                                                             | Yes (via USB)                                                                                                             |
| Battery Type                      | One 18650 rechargeable battery (removable)                                                                                | One 18650 rechargeable battery (removable)                                                                                | One 18650 rechargeable battery (removable)                                                                                |
| Battery Operating Time            | Up to 5 hours continuous running (@25°C, WiFi and CVBS off)<br>Up to 3 hours continuous running (@25°C, WiFi and CVBS on) | Up to 5 hours continuous running (@25°C, WiFi and CVBS off)<br>Up to 3 hours continuous running (@25°C, WiFi and CVBS on) | Up to 5 hours continuous running (@25°C, WiFi and CVBS off)<br>Up to 3 hours continuous running (@25°C, WiFi and CVBS on) |
| Battery Capacity Display          | Yes                                                                                                                       | Yes                                                                                                                       | Yes                                                                                                                       |
| Power                             | 5 VDC/2 A, USB Type-C interface<br>Supports external power supply                                                         | 5 VDC/2 A, USB Type-C interface<br>Supports external power supply                                                         | 5 VDC/2 A, USB Type-C interface<br>Supports external power supply                                                         |
| Working Temperature               | -20°C to 55°C (-4°F to 131°F)                                                                                             | -20°C to 55°C (-4°F to 131°F)                                                                                             | -20°C to 55°C (-4°F to 131°F)                                                                                             |
| Protection Level                  | IP67 (Waterproof)                                                                                                         | IP67 (Waterproof)                                                                                                         | IP67 (Waterproof)                                                                                                         |
| Dimension                         | 161 x 87 x 51 mm (6.3 x 3.4 x 2.0 in)                                                                                     | 168 x 87 x 51 mm (6.6 x 3.4 x 2.0 in)                                                                                     | 168 x 87 x 51 mm (6.6 x 3.4 x 2.0 in)                                                                                     |
| Weight (w/o batteries)            | 470 g (1.04 lb)                                                                                                           | 480 g (1.06 lb)                                                                                                           | 480g (1.06 lb)                                                                                                            |

Specifications are subject to change without notice.



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